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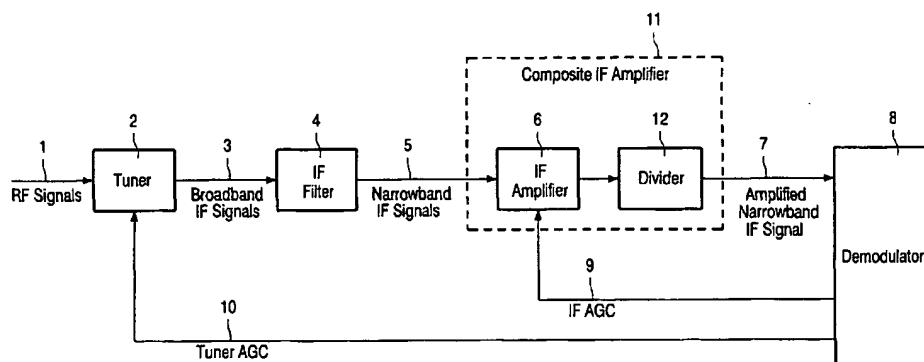
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(54) Title: FRONT-END SENSITIVITY BOOSTER



(57) Abstract: The invention relates to a method for increasing the sensitivity of a chain of amplifiers that comprises the steps of amplifying a signal by means of a first amplifier with a gain factor  $A_1 = A_{1,m} \cdot \Delta A_1$ , where  $A_{1,m}$  denotes a constant gain factor and  $A_1$  denotes a gain factor variation with  $1 \leq A_{1,min} \leq A_1 \leq A_{1,max}$ , further amplifying the signal by means of a second amplifier with a controllable gain factor  $A_2 \leq A_{2,max}$ , where variations  $A_1$  of the gain of the first amplifier are compensated by reducing the gain  $A_2$  of the second amplifier, so that the difference between the chain gain factor  $A_C = A_1 \cdot A_2$  and a target chain gain factor  $A_T \leq A_{T,max}$  becomes zero. To solve the object of the invention to provide a method for increasing the sensitivity of a chain of amplifiers that suffers from gain factor variations, it is proposed that the signal at the output of the second amplifier is additionally fed into a divider that applies a fixed factor  $A_3 \leq 1$  to its input, that variations  $A_1$  of the gain factor  $A_1$  of the first amplifier as well as the fixed factor  $A_3$  are at least partially compensated by the gain factor  $A_2$  of the second amplifier, so that the difference between the chain gain factor  $A_C' = A_1 \cdot A_2 \cdot A_3$  and the target chain gain factor  $A_T$  becomes minimum, and that the fixed factor  $A_3$  is chosen so that there exist at least some combinations of values  $A_1$  and  $A_T$  for which said difference can be forced to zero, and some combinations of values  $A_1$  and  $A_T$ , for which said difference can no longer be forced to zero due to the limitation  $A_2 \leq A_{2,max}$ . The invention further relates to a device for increasing the sensitivity of a chain of amplifiers.

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